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SCIENTIFIC NEWS.

— The National Academy of Sciences held a meeting, November 16th–19th, for the reading of papers by its members at New York. From the annual report of the president, Prof. W. B. Rogers, we take the following statement, showing the practical nature of the work already performed by the members for the Government, and who are elected solely from the excellence of their original contributions to pure science.

The National Academy of Sciences was established by Act of Congress in March, 1863, with power to frame its own constitution, select its own members, and provide in other respects for its continuance and successful operation.

The object of the Academy is to advance science, pure and applied, by original researches; to invite the attention and aid of the Government to scientific inquiries of especial public importance, to be directed by the Academy; and especially to investigate, examine, experiment, and report on any subject of science or art whenever called upon by any department of the Government.

The Academy contains at present about one hundred members, representing within their ranks nearly every department of knowledge, whose services, in accordance with the charter of the Academy, are always at the disposal of the Government.

The Academy by its charter is made in a sense the scientific adviser of the National Government, and has, therefore, been frequently called upon by the departments for suggestions or researches on scientific questions bearing upon the public interest.

The Report gives a summary of what the Academy has done since its foundation in aiding the Government by its scientific advice and coöperation. The special investigations thus undertaken amount in number to thirty-one, on such subjects as the magnetic deviations in iron ships, the national currency, the expansion of steam, the prevention of counterfeiting, the improvement of Greytown harbor, Nicaragua, the distinguishing of calf's hair goods from woolen goods, silk culture in the United States, the measurement of the velocity of light, the preparation of a magnetic chart of the United States, and similar subjects, together with reports on weights, measures and coinage.

As the Report states: "A consideration of the value of these labors, and of the prompt zeal with which the Academy has always responded to the calls of the Government, should incline the National Legislature to continue the wise policy of making ample provision for the scientific work undertaken by the Academy at the request or with the sanction of the Government. Researches of the nature of some of those here enumerated, require costly instruments and the coöperation of many persons, it may be for a prolonged period, and, of course, cannot be brought to the most satisfactory results without an expenditure of money corresponding to the nature and duration of the work.

"It is much to be regretted that the Academy is not provided with the means of publishing its scientific and other productions. Since its establishment, upward of five hundred papers, many of them possessing great scientific value, have been contributed by its members and by others who have been invited to take part in its sessions. Some of these, it is true, have reached the circle of scientific readers through other channels of publication, but it cannot be doubted that the interests of science, as well as the dignity of the Academy, would be promoted by the annual publication of a volume of its scientific memoirs and other proceedings under its own direction and authority.

"As a recognized counselor of the Government, frequently called upon for important scientific service, it is thought that the Academy may reasonably hope that provision will be made by the Government for such publication."

— As a result of the explorations of the United States Fish Commission within the past ten years, 1000 additions to the Maine invertebrate fauna of New England have been made; many of them, however, have been independently discovered by Prof. Verrill, who also has had charge of these explorations undertaken by the Commission. Moreover, the Commission has discovered one hundred species of fish near to the eastern Atlantic coast, of which about fifty are new to science. One of the more important features of the work is the preparation of life-histories of the useful marine animals of the country. More or less complete biographical monographs have been printed on the blue-fish, scup, menhaden, salmon, and the white fish, and others are nearly ready. The embryological history of the cod, shad, alewife, salmon, smelt, Spanish mackerel, striped bass, white perch, and the oyster have been studied, under the auspices of the Commission, by Messrs. Brooks, Ryder, Schaeffer, Rice and others. A pleasant tribute to the success of the Commission in its general work and its exhibit at the Berlin International Exhibition was the award of the first honorary prize by the Emperor of Germany to Prof. Baird, who is regarded in Europe, in the words of the president of the German Fischerei Verein, as the first fish culturist in the world.

— The steamer *Blake*, Commander J. R. Bartlett, U. S. N., Assistant Coast and Geodetic Survey, under instructions from C. P. Patterson, superintendent of that survey, lately read a paper on a dredging trip of three or four weeks off the coast between George's bank and the latitude of Savannah. The lines dredged over, approved by the superintendent, were those selected by

Prof. A. Agassiz, who accompanied the *Blake*, having special charge of the results of the dredgings, all of which proved to be eminently satisfactory to him, many new forms and facts being obtained. In effecting the dredgings, over a line off Charleston, S. C., nearly normal to the coast, across the Gulf stream, Commander Bartlett found the depths much less than expected. This induced him, although the trip was one primarily for dredging, to extend the work of sounding, and he accordingly ran a line of soundings nearly along the warmest band of the Gulf stream, commonly called the axis of the stream, for a distance of 150 miles, from lat. 32m. to lat. 33m. 30s. north, on which he obtained depths varying from 233 to 450 fathoms, where it was supposed that the depths would range from 600 to 1000 fathoms. At the north-east end of this line, in about lat. 33° 30′ north, the depth suddenly increased, in a distance of 15 miles, from 457 to 1386 fathoms. These depths obtained by Commander Bartlett, appeared to indicate that a submarine table land may extend from the coasts of North and South Carolina across to the Northern Bahamas.

— Lieutenant-Commander Sigsbee's gravitating trap for collecting organisms at different depths, was described by Prof. Agassiz, at the last meeting of the National Academy of Sciences, who also reviewed the more important results determined by its use. It was found that to the depth of 50 fathoms the same organisms were taken as at the surface. The next 50 fathoms contained the same types, but the genera was less numerous. They counted 17 genera of pelagic organisms upon the immediate surface in one of these investigations, but only 5 of them were brought up when the trap was let down to a depth of 100 fathoms. Prof. Agassiz concluded with a high compliment to the ingenuity of Commander Sigsbee, whose invention had surmounted so many of the difficulties connected with the study of submarine biology.

He believed that the bodies of pelagic organisms brought up from great depths were the carcasses of animals that had perished of age or accident upon the surface, and had slowly settled to the bottom to furnish food for its living hosts. It required from three to four days for a dead tunicate to sink to the depth of 1000 fathoms.

— Many sheep and lambs have recently been worried on sheep farms in the neighborhood of Dundee, Scotland. An unusual method of sheep worrying was recently perpetrated on the farm of Pickstone, tenanted by Mr. Campbell. One morning a lamb was heard bleating in one of the fields on the farm, and, as no lamb could be seen on a casual inspection, a more careful search was made, when it was found that the bleating proceeded from a lamb that was buried in the land, the only part left exposed being the head. It was at once evident that this had been the work of a dog. The lamb was taken out, and was, strange to say, little the worse of its burial. A diligent watch was instituted, with the result that the depredator—a collie dog—was captured in the act of burying another lamb, which was also alive.

— The new building at South Kensington for the British Museum was finished last June, and the geological, botanical and mineralogical specimens have been removed from the old building. The zoölogical collections, which are equal in bulk to the other three collectively, have yet to be removed, as the necessary funds for this purpose have not yet been appropriated. Professor Owen, the veteran Superintendent of the Natural History Collection, still actively directs the labors of his assistants. A biographical notice of Professor Owen and an excellent portrait by Jeens appeared in *Nature*. He has lately designed an index museum in the new building, intended " to show the type characters of the principal groups of organized beings," thus epitomizing nearly the entire museum.

— The members of the expedition which, under the auspices of the Archæological Institute of America, is to investigate the ruins of the city of Assos, in Asia Minor, will sail this week in the steamship *Germanic*, of the White Star Line. The party comprises Joseph Thatcher Clarke, of Boston, who will act as the leader; Francis Henry Bacon, of this city; Maxwell Wrigley, of Brooklyn, and two or three other gentlemen who are interested in archæological research. Through the Department of State, the Turkish Government has offered the members of the expedition every assistance in its power. Assos is on the southern coast of Mysia, opposite the island of Lesbos, and contains among other things the ruins of a Doric temple, a theatre, and massive fortification walls.

— The following calculation as to the total number of existing botanical species, has been recently made by Dr. Müller, of Geneva. We have at present in our books about 130,000 species, and if we suppose that 30,000 (in round numbers), belong to countries like Europe and North America, where there are hardly any species, but some cryptogams to be discovered, the remainder, or 100,000, representing exotic plants, more or less tropical and southern, we may double the latter for new species, giving 200,000 for these less known regions, and altogether 230,000 for the whole globe, with the exception of countries still quite unknown botanically. Adding only 20,000 species for the latter, we reach a minimum sum of 250,000 species of plants.

— Dr. B. W. Richardson, in a paper read before the Sanitary Institute (Exeter, September 20, 1880),. seems to approach the position of Professor Jäger. He writes: " Go into the wards of a lunatic asylum, and notice among the most troubled there the odor of the gases and the vapors they emit by the skin and the breath. That odor is from their internal atmosphere, their nervous ethereal emanation. They are mad up to suicide or murder, or any criminal folly. Can it be otherwise? They have secreted the madness; they are filled with it; it exhales from them. Catch it, condense it, imbibe it, and in like manner it would madden any one." Is not this the teaching of Jäger and Dunstmaier, spiced to suit the audience and the occasion? — *Journal of Science.*

— M. E. Yung (*Comptes Rendus*, August 30, 1880) has studied the development of the eggs of *Loligo vulgaris* and *Sepia officinalis* exposed to light of different colors. The development is hastened by violet and blue light; retarded by green and red. Yellow light behaves like white light. Larvæ of *Ciona intestinalis* also grew most rapidly in the violet light. Development under the red and green lights, though retarded, was effected in perfection.

— Besides issuing the beginning of what will be a most valuable series of monographs on the Mediterranean fauna studied at Dr. Dohrn's Zoölogical Station, a provisional priced catalogue of the microscopical preparations issued by the Station at Naples, has been published. It includes four different preparations of Protozoa, 33 of Cœlenterata, 49 of Echinodermata, 33 of Vermes, 57 of Arthropoda, 54 of Mollusca, and 193 of Vertebrata. These will be as valuable as any ever sold. The price is from one to ten francs.

— As the result of Dr. O. Finsch's voyage of ten months in the Pacific Ocean he has sent to Europe about thirty boxes of collections, the materials embracing 70 mammals, 180 birds, 800 reptiles, 1200 fishes, 15,000 mollusks, 800 crustacea, 400 spiders, 1400 insects, together with 50 skulls and 55 casts of faces, representing the people of twenty different islands, besides 1500 ethnographical objects.

— A Young Men's Society for Home Study has been formed in Boston for the encouragement of systematic study and reading at home. The course in Natural Science, of which department Mr. S. H. Scudder is the head, embraces Botany, three courses in Zoölogy and two courses in Geology. The reading is designed to be accompanied by the study of specimens.

— We learn that the Rev. W. H. Dallinger, of Liverpool, the distinguished microscopist, has accepted the appointment of Governor and Professor of Biology at Wesley College, Sheffield. This institution may be congratulated on the acquisition it has made.

— The death of Mr. Frank Buckland, is announced in the papers of Dec. 18th. Mr. Buckland was the son of Dean Buckland, the distinguished geologist. He was well known as a pleasing writer on popular natural history, and as a fish culturist.

— A large and valuable collection of Rhode Island plants has been presented by Mr. James L. Bennett, of Providence, to the already increasing Herbarium of Brown University, of which Mr. W. W. Bailey has recently been appointed the curator.

— Prof. Thomas Rymer Jones, F.R.S., died in December; he was born in 1810; held the chair of comparative anatomy in King's College, London, and was the author of "The General Outline of the Animal Kingdom."

— Dr. E. Sequin, well-known as a leading American physician, philanthropist and physiologist, died in New York in October. He was born in France in 1812, and showed brilliant talents while a student in Paris.

— It is stated in the daily papers that the late Prof. Watson, of the University of Michigan left the sum of $50,000 to the National Academy of Sciences for the promotion of original research in astronomy.

— It is reported in the daily papers that a manuscript journal of Gilbert White, of Selborne, has been discovered. It is said to be of considerable length.

— Dr. Lauder Lindsay, who wrote on the subject of intelligence in the lower animals, and who was an authority on British lichens, died in December last.

— Prof. Ernst Hampe, a distinguished German bryologist, died recently at Helmatedt, aged 85 years.

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PROCEEDINGS OF SCIENTIFIC SOCIETIES.

New York Academy of Sciences, Dec. 20.—Professor C. H. Hitchcock read a paper on the ancient volcanoes of New England, and Dr. R. P. Stevens exhibited some rare silver ores and carboniferous fossils from Arizona.

Boston Society of Natural History, Dec. 15.—Notes on the geology of Mt. Desert were read by Mr. Wm. M. Davis, and that of the adjoining Frenchmen's Bay was discussed by Mr. W. O. Crosby. Mr. J. S. Kingsley spoke of some points in the anatomy of Holothurians. Dr. Edward Palmer showed some objects of ethnological interest from caves in Mexico.